



**higher education  
& training**

Department:  
Higher Education and Training  
**REPUBLIC OF SOUTH AFRICA**

**NATIONAL CERTIFICATE (VOCATIONAL)**

**CARPENTRY AND ROOF WORK  
NQF LEVEL 4**

**NOVEMBER 2011**

**(12030504)**

**18 November (Y-Paper)  
13:00 – 16:00**

**This question paper consists of 5 pages.**

**TIME: 3 HOURS  
MARKS: 100**

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**INSTRUCTIONS AND INFORMATION**

1. Answer ALL the questions.
  2. Read ALL the questions carefully.
  3. Number the answers according to the numbering system used in this question paper.
  4. All work you do not want to be marked must be clearly crossed out.
  5. Start each question on a NEW page.
  6. Rule off across the page on completion of each question.
  7. All the abbreviations and symbols must comply with the latest National Building regulations and all relevant SANS (SABS) codes.
  8. Write neatly and legibly.
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**QUESTION 1: INSTALLATION OF A GEYSER SUPPORT DECK**

- 1.1 Say which TWO artisans are jointly responsible for installing a hot water geyser and give a brief description of their respective duties. (4)
- 1.2 Mention THREE practical problems facing the installation of a geyser. (3)
- 1.3 Explain why it is better to rest a geyser on an internal wall than on the tie beams of the roof trusses. (2)
- 1.4 List THREE reasons why it is dangerous and illegal to cut into the webs of roof trusses when installing a geyser. (3)
- 1.5 Explain the purpose of a drip-tray underneath the geyser. (2)
- 1.6 Describe a method of strengthening the tie beam in order to support a geyser. (1)
- [15]**

**QUESTION 2: INSTALLATION OF CEILINGS**

- 2.1 Mention TWO benefits of having a ceiling in a building. (2)
- 2.2 Explain why it would be unsuitable to use 38mm x 38mm brandering to support a gypsum ceiling in a house which has a corrugated iron roof. (3)
- 2.3 With reference to the above QUESTION 2.2, what size of brandering would be best suited? (1)
- 2.4 The terms numbered 2.4.1- 2.4.9 below, all refer to a particular stage when installing a gypsum board ceiling. Re-arrange them in the correct order by writing down only the question numbers in the proper sequence in your ANSWER BOOK.
- |       |                                      |     |
|-------|--------------------------------------|-----|
| 2.4.1 | Fixing the brandering                | (1) |
| 2.4.2 | Create a datum mark                  | (1) |
| 2.4.3 | Fit cover strips                     | (1) |
| 2.4.4 | Level the brandering                 | (1) |
| 2.4.5 | Fit the cornice                      | (1) |
| 2.4.6 | Mark the batten spacing on the walls | (1) |
| 2.4.7 | Erect a suitable scaffold            | (1) |
| 2.4.8 | Fit a double row of battens          | (1) |
| 2.4.9 | Fit and fix ceiling boards           | (1) |
- 2.5 List THREE ways of preventing damage to ceiling boards before installation. (3)
- 2.6 Mention TWO methods of concealing the gap that is formed where two ceiling boards meet and give a brief description of each method. (4)

- 2.7 What purpose does the cornice serve when installing a ceiling? (2)
- 2.8 Which device assists the carpenter when cutting 90° corner cornice joints? (1)
- 2.9 What is the purpose of installing a trap door in a ceiling? (2)
- 2.10 Name TWO requirements of a trap door. (2)
- 2.11 Supply ONE good reason why it is good practice to install insulation in a roof. (1)
- [30]**

### **QUESTION 3: BUILDING SUSPENDED TIMBER FLOORS**

- 3.1 List THREE situations where a suspended timber floor could be built. (3)
- 3.2 Supply TWO reasons why a space of not less than 550mm must be maintained between the underside of floorboards and the surface of the ground below it. (2)
- 3.3 What is the main advantage of using laminated timber for floor joists? (1)
- 3.4 List FOUR defects a contractor should look out for when choosing timber for floorboards. (4)
- 3.5 All flooring must be coated to protect and preserve it. List THREE characteristics of a good floor coating. (3)
- 3.6 What is the minimum bearing for a floor joist built into masonry? (1)
- 3.7 Explain why it is not permissible to drill holes for conduits in the upper or lower third of a floor joist. (3)
- 3.8 Explain the following terms:
- 3.8.1 Sleeper wall (1)
- 3.8.2 Ant guard (1)
- 3.8.3 DPC (damp-proof course) (1)
- [20]**

**QUESTION 4: DOORS AND DOOR FURNITURE**

- 4.1 Name TWO types of doors commonly found on a building site and say how their applications differ. (4)
- 4.2 List THREE problems a carpenter could encounter with the doorframe before hanging the door. (3)
- 4.3 Supply THREE reasons why the direction in which a door swings is important. (3)
- 4.4 Why is it advisable to bevel the vertical sides of a door when fitting it? (2)
- 4.5 Give brief description of the following terms:
- 4.5.1 Mortise lock (1)
  - 4.5.2 Cabin hook (1)
  - 4.5.3 Peephole (1)
  - 4.5.4 Weather strip (1)
  - 4.5.5 Butt hinge (1)
- 4.6 State the THREE most common methods used when cutting a mortise. (3)
- [20]**

**QUESTION 5: PRE-MANUFACTURED CUPBOARDS, SKIRTING, SHELVING AND PANELLING**

- 5.1 Give a step-by-step description of how you would fit a pre-manufactured floor-standing cupboard. (5)
- 5.2 Mention TWO devices which could be used to support a wall-mounted cupboard. (2)
- 5.3 List TWO practical purposes of skirting boards. (2)
- 5.4 What is the purpose of the recess at the back of skirting boards? (1)
- 5.5 Explain why laminated wood would be a better choice than chipboard for use as shelving. (2)
- 5.6 List THREE precautions you would take before installing shelving. (3)
- [15]**

**TOTAL: 100**